A. Recommendations

THAT Council receive Staff Report CSOPS.19.077, entitled “Deputation for Sanitary Serving of 102 Happy Valley Road”;

AND THAT Council receives this report for their information.

B. Overview

The purpose of this report is to provide information to Council regarding the sanitary servicing options to a residential property at 102 Happy Valley Road in conjunction with the Town of The Blue Mountains plan to extend servicing to Happy Valley Road as part of the 20 Year Expansion Plan.

C. Background

On September 16, 2019 homeowner Mike Phillips of 102 Happy Valley Road requested that Council allow the installation of a low pressure forcemain sanitary sewer from his residence to the sanitary maintenance hole located across Grey Road 19 on Settlers Way. Mr. Phillips has indicated that his septic system requires replacement and is not currently fully located on his lands. In addition, he has also stated that he is unable to install a septic system on his lands due to the setback requirements of a well on a neighbouring property.

Crozier Consulting Engineering was retained by Home Owners, Mike Philips and Christa Beverley to look at alternatives for sanitary servicing for 102 Happy Valley Road. Town Staff met with Haley Birrell and Brittany Robertson, both from Crozier Consulting Engineering on Oct 30, 2018 to discuss the options for servicing this property. At that meeting, the possibility of installing a low pressure forcemain instead of a gravity main was discussed. The Town had indicated that the preferred servicing for that area is a gravity main, not a low pressure forcemain. It is the Town’s practice to proceed with servicing that can be extended, not just to provide services for one homeowner, when others also require servicing in the future.
At the time of the meeting with Crozier Consulting Engineering, Staff questioned the costing applied to both the gravity sewer main and the low pressure forcemain that was presented. Staff felt the estimate for the gravity sewer seemed high, and the estimate for the low pressure system was low.

The Town of The Blue Mountains Future Water and Wastewater Servicing Extensions does include a project to service Happy Valley Road. Due to the topography of this area, the lands are well suited for a gravity sewer. There are twenty-three (23) Equivalent Residential Users to be serviced by this project. Based on the 2018 Bench Mark Costing, the 505 meters of sewer installation would cost a total of approximately $600,000 or $28,000 per user. The estimated time frame for this work is in 10 to 20 years.

If we consider a low pressure forcemain for this area, although the price for actual sewer would be slightly less, the reinstatement of the road would remain the same, and each individual home owner would then be required to purchase a grinder pump system. The approximate cost for each user would drop to $27,000, however there would be an additional $10,000 per user for the grinder pump.

Below is a map from the Town’s CityView for reference.
D. Analysis

Staff have consulted with the Chief Building Official to discuss options for a septic system replacement at 102 Happy Valley Road. From the Engineers report, it states that the existing system has a leaching bed on the neighbouring property and the “holding tank” on their own property. Staff suspect “holding tank” is an error and should read “septic tank”.

Under Part 11 of the Ontario Building Code, existing clearances for sewage systems are acceptable where a replacement sewage system requires lesser clearances than those required under Part 8 for the existing system. This provision may permit a filter bed or a tertiary system to be installed in the same location as the existing leaching bed provided that the existing setbacks are maintained. If the existing septic tank is replaced, it may be replaced in the same location and the minimum tank size would be 3,600L. If a larger tank is required, the minimum setback regulations would apply for new systems under Part 8.

The reconstruction of a leaching bed on the neighboring property may be permitted since the existing system is already located on another property. Prior to issuing a permit for the portion of the septic system on the neighboring property, the property owners consent would be required.

It would be beneficial if a septic design was submitted to the Building Services Division so that we may review it for compliance with the Ontario Building Code. The design should show the location of the existing system, indicating all existing setbacks, tank size, bed size, pipe length, well location, T-time of underlying soil etc.

A second design shall show the calculations for the new daily design flow and the location and setbacks for the new system.

An additional concern brought up at the deputation by Mr. Phillips was the setback to a neighbour’s well. All the properties on Happy Valley Road are serviced by municipal water. If a well isn’t being used and maintained, it should be abandoned. The Ontario Well Records indicated the closest well to property line at 102 Happy Valley Road is 80 meters away. This exceeds the setback requirement of 15 meters to a septic system.

Staff have acquired installation estimates from a company that has done trenchless work in the past for the Town. For the works on the Town and County lands, for the 65m sanitary main, the costs of the gravity sewer are approximately $100,000, and the costs of a 50mm low pressure forcemain are approximately $25,000, not including the estimated $10,000 for the purchase of a grinder pump system on private lands. Both of these installations do require some open cut work, as the Town’s 350mm trunk watermain runs in front of this property on the west side of Grey Road 19 and a natural gas line runs along the east side of the road. As well, both installations will require an Environmental Compliance Approval from the MECP to install a sewer extension on Town Lands.

Typically low pressure forcemain systems would be utilized in areas where no other option is available. If the Town should allow the homeowner to install the low pressure forcemain on
Town lands, it will be located in the area that the future gravity sewer will need to be installed. This will add extra cost and extra efforts when installing the sewer to service the rest of the street. A 50mm (2”) low pressure forcemain will not be able to service the entire street, it is much too small. The smallest low pressure forcemain currently in the Town is a 75mm (3”).

Staff believe that a gravity sewer is ideally suited for this location and see no justification to consider a low pressure forcemain system in the area. Staff recommend that if the homeowner wishes to construct a sanitary sewer connection from their residence at 102 Happy Valley Road to the maintenance hole on Settler’s Way, that they retain the services of an engineering firm to design and install a gravity sewer adequately sized to service the entire Happy Valley Road. The design will be required to be approved by the Town prior to construction. The Town will be willing to enter into an agreement with the homeowner to use best efforts to recoup some of the installation costs when the full gravity system is installed on Happy Valley Road. The installation of any works on Town lands will require a municipal lands use permit from the Town and an encroachment permit from the County of Grey.

E. The Blue Mountains Strategic Plan

Goal #5: Ensure Our Infrastructure is Sustainable
Objective #1 Develop a Long-Term Asset Management Plan for the Maintenance, Renewal and Replacement of Existing Infrastructure
Objective #2 Avoid Unexpected Infrastructure Failure and Associated Costs and Liability
Objective #3 Implement Best Practices in Sustainable Infrastructure
Objective #4 Ensure that Infrastructure is Available to Support Development

F. Environmental Impacts

Allowing the homeowner to install a low pressure forcemain from 102 Happy Valley Road to the maintenance hole on Settlers way may have environmental impacts when installing the gravity system for all of Happy Valley Road in the future. The low pressure forcemain will be located in the same location as the future gravity main, therefore 102 Happy Valley Road may not have sanitary services during the time of construction. The Town will be required to address this issue.

G. Financial Impact

Allowing a low pressure forcemain installation will increase the costs of installing the gravity system when the Town moves ahead with servicing of Happy Valley Road.

H. In Consultation With

Mike Humphries, Engineering Design Technologist
Tim Murawsky, Chief Building Official
I. Public Engagement

The topic of this Staff Report has not been subject to a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. Comments regarding this report should be submitted to Allison Kershaw, manager@thebluemountains.ca.

J. Attached

1. Deputation from Crozier Consulting Engineers on behalf of Christa Beverly

Respectfully submitted,

________________________________________
Allison Kershaw
Manager Water and Wastewater Services

For more information, please contact:
Allison Kershaw
manager@thebluemountains.ca
519-599-3131 extension 226
C. F. Crozier & Associates was retained by Christa Beverley to present alternatives for sanitary servicing to the Client’s place of residence at 102 Happy Valley Road, Town of The Blue Mountains (TOBM). Currently, 102 Happy Valley Road is serviced via a septic system which has a holding tank located on the property, with a septic bed located on an adjacent property. The nearest manhole to connect into full municipal services is located approximately 60 metres to the east on Settlers Way across Grey Road 19.

Three potential servicing solutions were evaluated to determine the preferred servicing connection. These solutions are as follows:

1. Connect into municipal sewer system via full gravity sanitary sewer extension from Settlers Way to property line;
2. Connect into municipal sewer system via grinder pump and local forcemain connection to the manhole on Settlers Way; and,
3. Sever land adjacent to residence and upgrade holding tank and septic bed on current septic bed location.

Three preliminary designs and high level cost estimates were prepared to evaluate the servicing alternatives. Unit prices in the estimates are based off of CFCA tender results in the Simcoe/ Grey County Areas. The following provides a review of each option.

**Servicing Option #1: Gravity Sanitary Sewer**

**Design Considerations**

Per direction from TOBM staff, a full sanitary sewer extension from Settlers Way, under Grey Road 19 to Happy Valley Road is required. This involves the extension of a 200mm diameter sanitary sewer approximately 60 metres east. Per direction of County of Grey Transportation Staff, open cut will not be supported and therefore directional drilling is required for this servicing connection.

- Our estimated cost for this work is $131,600.00. This includes the installation of sewer, manhole, as well as road re-construction works [refer to attached cost breakdown].
- Requires MECP ECA Approval for full sanitary connection
  - $1100 permit fee
  - 3-4 month timeline to secure approvals

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The material in this memo reflects best judgment in light of the information available at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. C.F. Crozier & Associates Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.
- Current holding tank will have to be removed.

**Advantages**
- Connection provides reliability of municipal servicing system.
- Removal of current septic system provides environmental benefits.

**Disadvantages**
- As per discussions with TOBM, the Town uses an affordability factor of $21,000 to determine feasibility of servicing options for a homeowner. The extension of the mainline is well above this threshold.
- TOBM does not foresee future development along Happy Valley Road within a 20-year period
  - Cost sharing recovery is unlikely

**Servicing Option #2: Grinder Pump**

**Design Considerations**

This servicing option involves the installation of a grinder pump system on the homeowner’s property and installation of a 2” forcemain which would connect into the manhole on Settlers Way for a more affordable solution. Grinder pump systems are a commonly used solution for low unit connections.

- Our estimated cost of work for this solution is $36,300.00. This includes the grinder pump system and installation of forcemain (refer to attached cost breakdown).
- Current holding tank will have to be removed.
- Crozier has worked within the TOBM on several projects in recent years where grinder pump systems were the optimal solution implemented. The following are CFCA projects within the TOBM:
  - Neighbourhood of Delphi Point
  - Peaks Bay
  - Longpoint Road (not constructed yet, however, a grinder pump system was deemed a supportable alternative by TOBM staff)
- Homeowner willing to remove grinder pump and connect into municipal sewer if and when installed by Town (~20 years).

**Advantages**
- Affordable servicing solution for homeowner.
- Reliability of municipal servicing system.
- Removal of current septic system provides environmental benefits.

**Disadvantages**
- TOBM Public Works staff has concerns regarding additional services located in right-of-way. Refer to appended TOBM correspondence (Town of The Blue Mountain, November 2018).
Servicing Option #3: Severance & Septic Tank

Design Considerations

As the current septic bed is located on an adjacent property, the owner would likely need to acquire this land to facilitate septic bed upgrades and relocation of the holding tank.

- Our estimated cost of works is $66,000.00. This includes the removal of the old septic tank, installation of new septic system (holding tank and septic bed) and purchase and severance of TSC land (refer to attached cost breakdown).
- The building permit required for the septic tank relocation could be undertaken within the permit for the building extension.

Advantages
- Current location of septic bed can remain.
- Mid-cost servicing solution for homeowner.

Conclusions

Upon review of all servicing alternatives, we opine that servicing option #2 is the most feasible for the homeowner and represents the best engineering solution at this time. This has been presented to TOBM staff and they do not support this option. Please refer to correspondence which has been appended to this memo (Town of The Blue Mountains, November 2018). Further resolution with the Town of The Blue Mountains will be required to move forward with this option.

Sincerely,

C.F. CROZIER & ASSOCIATES INC.

Brittany Robertson, P. Eng.
Project Engineer

BR/hb

Encl. Correspondence with TOBM
Gravity Sewer Cost Estimate
Grinder Pump Cost Estimate
Septic Tank Cost Estimate